CHAPTER 3
CIRCULATION ELEMENT

3.1 PURPOSE

The 2000 General Plan Circulation Element contains the City's overall transportation system plan. The relationship of the Circulation Element to the Land Use Element is critical since the circulation system must adequately handle future traffic.

The Circulation Element identifies and establishes the City's policies governing the system of roadways, intersections, bike paths, pedestrian ways, and other components of the circulation system, which collectively provide for the movement of persons and goods throughout the City. The Element establishes official City policy which:

- Identifies facilities required to serve present and future vehicular and non-vehicular travel demand in the City;
- Identifies linkage between alternative modes of transportation and feasible alternative transit strategies; and
- Identifies strategies to implement the City's circulation system.

3.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The Circulation Element specifies the system of roadways and other transportation infrastructure required to satisfy future travel demand. The Circulation Element is closely related to the Land Use Element, which defines the buildout land use scenario for the year 2020. The land use scenario, through the

specification of the type, density, intensity and pattern of development, establishes the magnitude and pattern of future trip making. The Circulation Element is also related to the Air Quality subsection of the Conservation Element because automobiles are a principal source of many airborne pollutants, including carbon monoxide and the pollutants which combine to form smog. The policies of the Circulation Element promote air quality objectives by providing an efficient circulation system, one which accommodates travel demand while minimizing the number and length of automobile trips.

3.3 SUMMARY OF EXISTING CONDITIONS

The City of Costa Mesa circulation system is largely built-out with most of the roadways shown on the Master Plan of Highways (MPH) already constructed. In this section, the existing roadway system is discussed and recent traffic volume counts are summarized.

EXISTING ROADWAYS

The existing roadway system within the City, together with the number of lanes (midblock) on individual segments of the circulation system are illustrated in Exhibit CIR-1. Regional circulation facilities serving the City include the San Diego Freeway (I-405), which traverses east-west across the northern portion of the City, the Corona del Mar Freeway (SR-73), which begins at the San Diego Freeway between Fairview Road and Bear Street and extends southeast where it becomes the San Joaquin Hills Transportation Corridor, and the Costa Mesa Freeway (SR-55), which enters at the northeast corner of the City and extends southwest transitioning into Newport Boulevard south of 19th Street.

The City's circulation system is greatly affected by the three freeways mentioned above. The San Diego Freeway carries the largest volume of traffic which in 1998 varied from approximately 260,000 vehicles per day just west of Bristol Avenue to over 300,000 vehicles per day between Harbor Boulevard and Fairview Road. The Costa Mesa Freeway carries approximately 135,000 vehicles per day on the segment between the San Diego Freeway and the Corona del Mar Freeway and about 80,000 vehicles per day at its terminus just north of 19th Street. The Corona del Mar Freeway differs from the other two freeways in the City because it becomes a toll facility just east of the City limits. Because of this, it carries lower volumes of regional traffic than toll-free highways. Traffic volumes on the Corona del Mar Freeway in 1998 were approximately 80,000 vehicles per day.

North/south arterial facilities serving the central part of the City include Harbor Boulevard, Fairview Road, and Bristol Street. Each is a six-lane facility for the most part, currently carrying volumes ranging from 30,000 to 72,000 vehicles per day. Other four-lane north/south facilities include Placentia Avenue in the west, Bear Street in the north, and Irvine Avenue to the east, each currently carrying volumes ranging from 12,000 to 33,000 vehicles per day.

Insert Exhibit CIR-1, Existing Roadway System

Six-lane facilities serving east/west travel through the City include Sunflower Avenue east of Bear Street and Adams Avenue west of Fairview Road, currently carrying volumes ranging from 27,000 to 43,000 vehicles per day, respectively. Several four-lane arterials also serve east/west traffic, including Baker Street, Fair Drive, Wilson Street, Victoria Street, west 19th Street, South Coast Drive, Sunflower Avenue (west of Bear Street) and 17th Street, each currently carrying a maximum daily volume in the range of 15,000 to 39,000 vehicles per day.

The City is bordered on the east and west by topographical features that limit the number of access points from areas outside the City. Running along the western City boundary is the Santa Ana River. Within the City of Costa Mesa, the Santa Ana River currently has crossings only at Adams Avenue and Victoria Street. Besides the San Diego Freeway, these two roadways represent the only locations where Costa Mesa vehicles can access the Cities of Huntington Beach and Fountain Valley to the west using City streets. Just east of the City is the Upper Newport Bay Ecological Preserve that limits travel to the east. Vehicles traveling from Costa Mesa and the eastern portion of the City of Newport Beach must use either Pacific Coast Highway to the south or Bristol Street to the north to bypass the bay.

The layout of the City's circulation system is most notable for its two differing grid patterns. Streets east of and including Newport Boulevard were constructed at approximately 45 degree angles from the traditional north/south streets in north Orange County. This results in odd-angled intersections along Newport Boulevard, as well as high traffic volumes where north/south streets like Harbor Boulevard intersect with Newport Boulevard.

Several major east/west arterials are interrupted by obstacles which prevent a continuous roadway from one end of the City to the other. Many streets east of Newport Boulevard do not align with their westerly extensions. For example, West 18th Street becomes Rochester Street upon crossing Newport Boulevard. Continuous east/west circulation is disrupted where Rochester Street cul-de-sacs just east of Orange Avenue. East 18th Street, which extends uninterrupted to Irvine Avenue, is located one block north of West 18th Street/Rochester Street.

Adams Avenue and Baker Street provide another example of the discontinuity in east/west travel. Adams Avenue transitions into a residential neighborhood east of Fairview Road and Baker Street similarly terminates into the Mesa Verde residential area west of Harbor Boulevard. This results in high turning movement volumes between Baker Street and Adams Avenue on Harbor Boulevard and Fairview Road. Similarly, Fair Drive terminates at Harbor Boulevard resulting in westbound traffic being forced to turn to access Adams Avenue, Wilson Street or Victoria Street in order to continue traveling westbound.

For northbound/southbound traffic in the northern portion of the City, the San Diego Freeway is an obstruction with only four crossings between the Santa Ana River and the Costa Mesa Freeway. These crossings are at Harbor Boulevard, Fairview Road, Bear Street, and Bristol Street. The north/south arterials within the City are also used by regional traffic traveling between Newport Beach to the south and northern cities such as Santa Ana.

CURRENT TRAFFIC VOLUMES

Existing (2000) average daily traffic (ADT) volumes on the circulation system are illustrated in Exhibit CIR-2, *Existing (2000) ADT Volumes*. The traffic volume counts for the arterial system were collected during 2000 by the City and the freeway counts were collected by Caltrans in 1998.

3.4 KEY ISSUES

Key traffic issues in the City are as follows:

SANTA ANA RIVER CROSSINGS

As noted in the existing conditions section, only three City arterial roadways cross the Santa Ana River. Two additional crossings are shown on the Circulation Element (Gisler Avenue and W. 19th Street), but City Council policy direction is to delete these two crossings from the Master Plan of Highways (MPH). Because of consistency requirements with the County Master Plan of Arterial Highways (MPAH), a special study has to be undertaken and approved by the Orange County Transportation Authority (OCTA) before such action can be taken. Accordingly, the Santa Ana River Crossings Study (SARX) is currently underway jointly with the Cities of Costa Mesa, Newport Beach, Fountain Valley, Huntington Beach and OCTA. When SARX is completed, the Circulation Element will be amended accordingly.

An implication of having these two additional river crossings in the Master Plan of Highways is that all City planning efforts for future conditions must include these crossings. This results in long-range planning decisions that may become invalid if the two crossings are eventually removed from the plan. The SARX study is important in this regard since it is in the City's best interest to resolve the issue regarding these crossings as soon as possible.

COSTA MESA FREEWAY EXTENSION

Long-range plans show the Costa Mesa Freeway (SR-55) extending beyond its current termination point. However, no timetable or funding source for its extension have been identified nor have many of the issues such as right-of-way needs been resolved.

SAN DIEGO FREEWAY ACCESS POINTS

As part of a plan to improve the I-405/SR-73 confluence area, changes in ramp configurations, deletion, and the addition of ramps will be made in this area. These changes will affect access into and out of the City via the I-405 and SR-73 Freeway and are expected to be completed by 2003. Another major project underway is the I-405/SR-55 Transitway project, which will add direct High Occupancy Vehicle (HOV) lane connectors between I-405 and SR-55 and improve freeway access to and from City streets. This project is also expected to be completed by 2003.

Insert Exhibit CIR-2, Existing (2000) ADT Volumes

The plans to improve area traffic as part of a confluence and transitway project include a reconfiguration of the Harbor Boulevard interchange (including a new northbound onramp from Hyland Avenue), the addition of a northbound offramp onto Avenue of the Arts, and the addition of a northbound onramp from Anton Boulevard, just east of Sakioka Drive. These improvements will result in a redistribution of traffic volumes and a net reduction in the amount of vehicles at existing interchanges.

3.5 FUTURE TRAFFIC DEMANDS

New development within the City of Costa Mesa along with regional traffic growth will result in an increase in traffic volumes within the City. In order to estimate the effect of future traffic on the City's arterial roadway system, the City's traffic model was updated with the 2000 General Plan land uses and the most recent data for long-range regional transportation patterns. The effect of this future traffic demand is discussed below.

TRIP GENERATION FORECASTS

The City's 2000 General Plan land use has been allocated to the 176 traffic analysis zones (TAZs) that make up the City of Costa Mesa. A trip generation rate for each of the City's 2000 General Plan land use categories has been developed based on the universally accepted trip rates published by the Institute of Transportation Engineers. For comparison purposes, the different land uses within the City were aggregated into the following four land use categories:

- Residential
- Commercial (Retail) & Office
- Industrial/R&D
- Other

These combined categories enable the land use trip generation to be easily summarized on an aggregate basis. A comparison of the land use and trip generation estimates as of 2000 development and General Plan in the year 2020 is summarized in Table CIR-1.

TABLE CIR-1
LAND USE AND TRIP GENERATION COMPARISON

			Existing		2020 General Plan		Net Increase	
	Land Use Category	**Units**	**Amount**	**ADT**	**Amount**	**ADT**	**Amount**	**ADT**
TOTAL	1. Residential	DU	40,330.00	316,499	42,469.00	339,093	2,139.00	22,594
	2. Comm (Retail) & Office	TSF	17,397.42	539,029	23,579.30	700,146	6,181.88	161,117
	3. Industrial & R&D	TSF	14,416.19	124,432	17,550.51	151,931	3,134.32	27,499
	4. Other[1]	--	--	81,725	--	86,513	--	4,788
	TOTAL			**1,061,685**		**1,277,683**		**215,998**

Notes:
[1] Uses quantified in units other than dwelling units or square feet.

As of 2000, development within the City is comprised of 40,330 residential dwelling units, 17,397,000 square-feet of commercial and office use, and 14,416,000 square-feet of industrial use. The "other" category includes uses such as colleges, schools, parks, agriculture, and uses quantified in units other than dwelling units and square footage. The total average daily vehicle trips generated by existing uses within the City is estimated at 1,061,000 ADT, 30 percent of which is attributed to residential uses, and the remaining 70 percent to non-residential uses, primarily office and commercial.

The 2000 General Plan projects increases in dwelling units to 42,469 and industrial/ office/commercial/public/institutional uses to just over 41 million square-feet by 2020. These increases result in a total trip generation within the City of an estimated 1,278,000 ADT, an increase of 20 percent over the existing ADT estimate. At the regional level, 20 year traffic volume forecasts for the portion of Orange County within the vicinity of Costa Mesa area are also anticipated to increase by approximately 20 percent over existing traffic conditions.

TRAFFIC VOLUME FORECASTS

Traffic volumes on the City circulation system were estimated for conditions representing buildout of the City's 2000 General Plan. The long-range time frame established for analyzing the 2000 General Plan is the year 2020. The 2020 circulation system assumed for the forecasts is based on the City's Master Plan of Highways (discussed in the following section) and the Orange County Transportation Authority's (OCTA) Master Plan of Arterial Highways (MPAH). Exhibit CIR-3, *2020 ADT Volumes*, illustrates the projected 2020 traffic volumes.

3.6 MASTER PLAN OF HIGHWAYS

With adoption of the 2000 General Plan, modifications to the roadway classifications were made to the City's Master Plan of Highways (MPH) to make consistent with OCTA's Master Plan of Arterial Highways (MPAH). The change in classifications did not result in any changes to the physical characteristics of the roadway. The following table summarizes the change.

TABLE CIR-2
CITY AND COUNTY ARTERIAL DESIGNATIONS

Classification	1990 General Plan Designations	2000 General Plan/ County MPAH Designations
Major Arterial	6 lanes – 2 left turn lanes – median	6 lane divided roadway
Primary Arterial	6 lanes – 1 left turn lane – median	4 lane divided roadway
Secondary Arterial	4 lanes – median optional	4 lane undivided roadway
Collector Arterial	2 lanes – no median – no parking	2 lane undivided roadway

Source: *Costa Mesa General Plan Traffic Analysis*, Austin-Foust Associates, Inc., March 2000.

For the 1990 MPH to correspond with the County MPAH designations, the following changes to the 2000 General Plan were made:

- Combine the current Major and Primary Arterials into the Major Arterial Category; and

- Divide the current Secondary Arterial into the Primary and Secondary Arterial Categories.

No changes were made to the Collector Arterial category.

The 2000 MPH, shown in Exhibit CIR-4, documents the ultimate arterial roadway system for the City, taking into consideration the above modifications.

To recognize that some arterials require additional improvements, such as additional turn lanes at intersections, beyond what is associated with the above classification, an additional designation is necessary. This is achieved by designating certain arterial segments as "Augmented". Augmented segments may include any combination of capacity enhancements, such as additional lanes at intersections, special traffic signal coordination or other types of intelligent transportation system (ITS) enhancements.

Exhibit CIR-5 provides typical cross-sections of augmented roadways, as well as augmented roadways with an additional right-turn lane. While the additional right-turn lane is a type of augmentation, it generally requires additional right of way, and hence its need is specifically designated on the MPH.

With adoption of the 2000 General Plan, the MPH was amended to downgrade a segment of 17th Street, from just west of Tustin Avenue to Irvine Avenue, to a primary arterial to be consistent with OCTA's MPAH.

ROADWAY CAPACITIES

The roadway capacity for each arterial on the Master Plan of Highways has been compared to the projected 2020 traffic volumes presented previously in this section. A summary of the arterial capacities is provided in Table CIR-3 and the resulting volume to capacity ratios are summarized in Table CIR-4. The table shows that one roadway segment (Gisler, west of Harbor) is forecast to exceed the theoretical maximum capacity.

Gisler Avenue, west of Harbor Boulevard is forecast to exceed capacity, with a volume of 30,000 ADT on a segment with a capacity of 25,000 ADT. This forecast includes the Gisler Bridge over the Santa Ana River, which adds approximately 8,000 ADT to Gisler Avenue and is a major contributing factor to this roadway exceeding capacity. This bridge is currently being analyzed by the Santa Ana River Crossings Study (SARX). As noted in Section 3.4, SARX is a multi-jurisdictional work effort to examine the impact of deleting the Gisler and 19th Street crossings. When this study is completed, appropriate updates will be made to the City MPAH in accordance with the Orange County Transportation Authority (OCTA) MPAH. If the Gisler bridge is deleted from the Master Plan of Highways, the deficiency shown above will not likely occur.

Insert Exhibit CIR-3, 2020 ADT Volumes

Insert Exhibit CIR-4, City of Costa Mesa Master Plan of Highways

Insert Exhibit CIR-5, Augmented Roadway Cross-Sections

TABLE CIR-3
ROADWAY CAPACITY DESIGNATION

Classification	Augmented	Standard
Major (8 lane divided)	90,000	75,000
Major (6 lane divided)	68,000	56,000
Primary (4 lane divided)	45,000	38,000
Secondary (4 lane undivided)	30,000	25,000
Collector (2 lane undivided)		12,500
One-Way Newport Boulevard (4 lanes)	45,000	38,000
One-Way Newport Boulevard (3 lanes)	34,000	28,000
One-Way Newport Boulevard (2 lanes)	23,000	19,000

NOTES:

Augmented Major (MA):	Typically 6 lane Divided Roadway with 114' Right-of-Way at Intersections, Right-Turn Lanes at Intersections (if required).
Standard Major (MS):	Typically 6 Lane Divided Roadway with 104' Right-of-Way at Intersections, Right-Turn Lanes at Intersections (if required).
Augmented Primary (PA):	Typically 4 Lane Divided Roadway with 90' Right-of-Way plus Additional Turn Lanes at Intersections.
Standard Primary (PS):	Typically 4 Lane Divided Roadway with 80' Right-of-Way, Right-Turn Lanes at Intersections (if required).
Augmented Secondary (SA):	Typically 4 Lane Undivided Roadway with 82' Right-of-Way plus Additional Turn Lanes at Intersections.
Standard Secondary (SS):	Typically 4 Lane Undivided Roadway with 72' Right-of-Way, Right-Turn Lanes at Intersections (if required).
Standard Collector (CS):	Typically 2 Lane Undivided Roadway with 60' Right-of-Way for Entire Segment.

RECOMMENDATIONS TO MPH

Three arterials were identified for potential downgrade in the MPH. These are:

- Arlington Drive between Fairview Road and Newport Boulevard – downgrade from Primary Highway to Collector;
- Baker Street from Bear Street to Redhill Avenue – downgrade from Major Highway to Primary Highway; and
- Redhill Avenue from north City Limits to Bristol Street – downgrade from Major Highway to Primary Highway.

These roadways were determined to operate at acceptable levels of service with the downgraded classification. However, in order to formally downgrade these roadways, a recommendation must be made to OCTA to change their classification in the MPAH. After OCTA accepts and changes the roadways to the revised classification, the City Council can authorize a similar change in the MPH.

A policy to authorize City staff to pursue the downgrade process for the above three arterials with OCTA is included in this 2000 General Plan.

TABLE CIR-4
2020 ADT VOLUMES AND CAPACITY ANALYSIS

Location	Classification[1]	Capacity	Volume	V/C
1. MacArthur w/o Harbor	6MA	68,000	31,000	.46
2. Sunflower w/o Harbor	4PA	45,000	9,000	.20
3. Sunflower e/o Harbor	4PA	45,000	19,000	.42
4. Sunflower w/o Fairview	4PA	45,000	17,000	.38
5. Sunflower e/o Fairview	4PA	45,000	22,000	.49
6. Sunflower w/o Bear	4PA	45,000	21,000	.47
7. Sunflower w/o Bristol	6MA	68,000	34,000	.50
8. Sunflower e/o Bristol	6MA	68,000	37,000	.54
10. Sunflower e/o Flower	6MS	56,000	26,000	.46
11. Sunflower w/o Main	6MS	56,000	43,000	.77
12. South Coast w/o Harbor	4PA	45,000	18,000	.40
13. South Coast e/o Harbor	4PA	45,000	13,000	.29
14. South Coast w/o Fairview	4PA	45,000	14,000	.31
15. South Coast e/o Fairview	4PS	38,000	17,000	.45
16. South Coast w/o Bear	4PA	45,000	14,000	.31
17. Anton e/o Bristol	6MS	56,000	33,000	.59
19. Anton s/o Sunflower	6MS	56,000	21,000	.38
21. Gisler w/o Harbor	4SS	25,000	30,000	1.20
22. Paularino e/o Bear	2CS	12,500	8,000	.64
23. Paularino e/o Bristol	4PA	45,000	16,000	.36
24. Paularino w/o Red Hill	4PS	38,000	14,000	.37
25. Baker e/o Mesa Verde	4SS	25,000	9,000	.36
26. Baker w/o Harbor	4SA	30,000	28,000	.93
27. Baker e/o Harbor	4PA	45,000	27,000	.60
28. Baker w/o Fairview	4PA	45,000	30,000	.67
29. Baker e/o Fairview	4PA	45,000	29,000	.64
30. Baker w/o Bear	4PA	45,000	39,000	.87
33. Baker w/o Bristol	6MA	68,000	34,000	.50
34. Baker e/o Bristol	6MA	68,000	33,000	.49
35. Baker w/o Red Hill	6MS	56,000	23,000	.41
36. W. Mesa Verde n/o Adams	4PS	38,000	6,000	.16
37. E. Mesa Verde n/o Adams	4PS	38,000	10,000	.26
38. Adams w/o Mesa Verde	6MA	68,000	31,000	.46
39. Adams btn Mesa Verdes	6MA	68,000	33,000	.49
40. Adams w/o Harbor	6MA	68,000	31,000	.46
41. Mesa Verde s/o Adams	4PS	38,000	9,000	.24
42. Mesa Verde w/o Harbor	4PS	38,000	10,000	.26
43. Adams e/o Harbor	6MA	68,000	34,000	.50
44. Adams w/o Fairview	6MA	68,000	27,000	.40
45. Merrimac e/o Harbor	4PS	38,000	7,000	.18
46. Merrimac w/o Fairview	4PS	38,000	8,000	.21
47. Arlington e/o Fairview	4PS	38,000	7,000	.18
49. Fair e/o Harbor	4PA	45,000	15,000	.33

TABLE CIR-4
2020 ADT VOLUMES AND CAPACITY ANALYSIS – CONTINUED

Location	Classification[1]	Capacity	Volume	V/C
51. Fair e/o Fairview	4PA	45,000	26,000	.58
53. Del Mar e/o Newport	4PA	30,000	23,000	.51
54. Del Mar w/o Santa Ana	4PA	30,000	20,000	.44
55. Del Mar w/o Irvine	4PA	30,000	21,000	.47
56. Wilson w/o Placentia	2CS	12,500	4,000	.32
57. Wilson e/o Placentia	4SS	25,000	9,000	.36
58. Wilson w/o Harbor	4SS	25,000	18,000	.72
59. Wilson e/o Harbor	4SA	30,000	21,000	.70
60. Wilson w/o Fairview	4SS	25,000	23,000	.92
61. Wilson e/o Fairview	4SS	25,000	18,000	.72
62. Santa Isabel e/o Newport	2CS	12,500	3,000	.24
65. Victoria e/o S.A. River	4PA	45,000	19,000	.42
66. Victoria w/o Placentia	4PS	38,000	12,000	.32
67. Victoria e/o Placentia	4PS	38,000	20,000	.53
68. Victoria w/o Harbor	4PS	38,000	25,000	.66
69. Victoria e/o Harbor	4PS	38,000	23,000	.61
70. Victoria w/o Newport	4PS	38,000	25,000	.66
72. 22nd w/o Santa Ana	4SS	12,500	6,000	.24
74. 22nd w/o Irvine	4CS	12,500	6,000	.48
80. 19th w/o Placentia	4PA	45,000	18,000	.40
81. 19th e/o Placentia	4PA	45,000	19,000	.42
82. 19th w/o Harbor	4PA	45,000	32,000	.71
83. 19th e/o Harbor	4PA	45,000	29,000	.64
84. 19th e/o Newport	4SS	25,000	7,000	.28
85. 19th w/o Santa Ana	2CS	12,500	6,000	.48
86. 19th w/o Tustin	2CS	12,500	6,000	.48
87. 19th w/o Irvine	2CS	12,500	6,000	.48
89. 18th w/o Placentia	2CS	12,500	6,000	.48
90. 18th e/o Placentia	2CS	12,500	5,000	.40
91. 18th w/o Newport	2CS	12,500	7,000	.56
92. 17th w/o Placentia	4SS	25,000	10,000	.40
93. 17th e/o Placentia	4PS	38,000	10,000	.26
94. 17th w/o Superior	4PS	38,000	12,000	.32
95. 17th w/o Orange	6MA	68,000	60,000	.88
96. 17th w/o Santa Ana	6MS	56,000	53,000	.95
97. 17th w/o Tustin	6MS	56,000	50,000	.89
98. 17th w/o Irvine	4PA	45,000	45,000	1.00
100. 16th w/o Placentia	2CS	12,500	2,000	.16
101. 16th e/o Placentia	2CS	12,500	5,000	.40
103. 16th w/o Santa Ana	2CS	12,500	7,000	.56
104. 16th w/o Tustin	2CS	12,500	6,000	.48
105. 16th w/o Irvine	2CS	12,500	4,000	.32
109. Monrovia s/o 19th	2CS	12,500	7,000	.56

TABLE CIR-4
2020 ADT VOLUMES AND CAPACITY ANALYSIS – CONTINUED

Location	Classification[1]	Capacity	Volume	V/C
110. Monrovia s/o 18th	2CS	12,500	5,000	.40
111. Monrovia s/o 17th	2CS	12,500	5,000	.40
112. Placentia s/o Adams	4PS	38,000	13,000	.34
113. Placentia n/o Wilson	4PS	38,000	13,000	.34
114. Placentia n/o Victoria	4PA	45,000	14,000	.31
116. Placentia n/o 19th	4PS	38,000	8,000	.21
117. Placentia s/o 19th	4PA	45,000	5,000	.11
118. Placentia s/o 18th	4PS	38,000	6,000	.16
119. Placentia s/o 17th	4PS	38,000	7,000	.18
120. Pomona s/o Wilson	2CS	12,500	6,000	.48
121. Pomona s/o Victoria	2CS	12,500	8,000	.64
122. Pomona s/o 19th	2CS	12,500	4,000	.32
123. Pomona s/o 18th	2CS	12,500	3,000	.24
125. Harbor n/o Sunflower	6MA	68,000	52,000	.76
126. Harbor s/o Sunflower	6MA	68,000	60,000	.88
127. Harbor n/o I-405	8MA	90,000	67,000	.74
128. Harbor s/o I-405	8MA	90,000	79,000	.88
129. Harbor n/o Baker	8MA	90,000	64,000	.71
130. Harbor n/o Adams	8MA	90,000	56,000	.62
131. Harbor s/o Adams	6MA	68,000	51,000	.75
132. Harbor n/o Fair	6MA	68,000	45,000	.66
133. Harbor n/o Wilson	6MA	68,000	41,000	.60
134. Harbor n/o Victoria	6MS	56,000	38,000	.68
135. Harbor s/o Victoria	6MA	68,000	37,000	.54
136. Harbor n/o 19th	6MA	68,000	32,000	.47
137. Harbor s/o 19th	6MS	56,000	22,000	.39
138. Fairview n/o I-405	7MA	79,000	70,000	.89
139. Fairview s/o I-405	6MA	68,000	56,000	.82
140. Fairview n/o Adams	6MA	68,000	58,000	.85
141. Fairview s/o Adams	6MA	68,000	42,000	.62
142. Fairview n/o Fair	6MA	68,000	36,000	.53
143. Fairview n/o Wilson	6MS	56,000	26,000	.46
144. Bear s/o Sunflower	6MA	68,000	23,000	.34
145. Bear n/o Paularino	6MS	56,000	36,000	.64
146. Bristol n/o Anton	7MA	79,000	70,000	.89
147. Bristol s/o Sunflower	7MA	79,000	60,000	.76
148. Bristol n/o I-405	8MA	90,000	85,000	.94
149. Bristol s/o I-405	8MA	90,000	67,000	.74
150. Bristol n/o Baker	6MA	68,000	56,000	.82
151. Bristol s/o Baker	6MA	68,000	42,000	.62
152. Bristol w/o SR-55	6MA	68,000	46,000	.68
153. Bristol e/o SR-55	6MA	68,000	33,000	.49
154. Newport n/o Fair & Del Mar	VAR[2]	79,000	70,000	.89

TABLE CIR-4
2020 ADT VOLUMES AND CAPACITY ANALYSIS – CONTINUED

Location	Classification[1]	Capacity	Volume	V/C
156. Newport SB s/o Fairview	3SA[3]	34,000	33,000	.97
157. Newport n/o 19th	6MA	68,000	42,000	.62
158. Newport n/o 17th	6MA	68,000	37,000	.54
159. Newport s/o 17th	6MA	68,000	17,000	.25
160. Superior s/o 17th	4PS	38,000	23,000	.61
161. Orange n/o Del Mar	2CS	12,500	3,000	.24
162. Orange n/o Santa Isabel	2CS	12,500	3,000	.24
163. Orange n/o 22nd	2CS	12,500	5,000	.40
164. Orange n/o 21ST	2CS	12,500	5,000	.40
165. Orange n/o 19th	2CS	12,500	4,000	.32
166. Orange n/o 17th	2CS	12,500	3,000	.24
167. Orange n/o 16th	2CS	12,500	8,000	.64
168. Orange n/o 15th	2CS	12,500	8,000	.64
169. Red Hill n/o Paularino	6MS	56,000	23,000	.41
170. Red Hill n/o Baker	6MS	56,000	24,000	.43
172. Red Hill n/o Bristol	6MA	68,000	18,000	.26
173. Santa Ana s/o Bristol	4SA	30,000	13,000	.43
174. Santa Ana n/o Del Mar	4SS	25,000	12,000	.48
175. Santa Ana n/o Santa Isabel	2CS	12,500	6,000	.48
177. Santa Ana n/o 21st	2CS	12,500	6,000	.48
178. Santa Ana n/o 19th	2CS	12,500	3,000	.24
179. Santa Ana n/o 17th	2CS	12,500	7,000	.56
180. Santa Ana n/o 16th	2CS	12,500	8,000	.64
181. Santa Ana n/o 15th	2CS	12,500	6,000	.48
182. Irvine s/o Bristol	6MS	56,000	33,000	.59
183. Irvine n/o Del Mar	6MS	56,000	27,000	.48
184. Irvine s/o Del Mar	4PS	38,000	29,000	.76
187. Tustin n/o 19th	2CS	12,500	1,000	.08
188. Tustin n/o 17th	2CS	12,500	4,000	.32
189. Tustin n/o 16th	2CS	12,500	5,000	.40
191. Irvine n/o 22nd	4PS	38,000	31,000	.82
192. Irvine n/o 21st	4PA	45,000	28,000	.62
193. Irvine n/o 19th	4PA	45,000	26,000	.58
194. Irvine s/o 19th	4PA	45,000	15,000	.33
195. Irvine n/o 17th	4PA	45,000	16,000	.36
196. Irvine n/o 16th	4PS	38,000	14,000	.37
198. Mesa e/o Orange	2CS	12,500	4,000	.32
199. Mesa e/o Santa Ana	2CS	12,500	5,000	.40
200. Town Center w/o Avenue of the Arts	4SS	25,000	5,000	.20
202. Ave Of The Arts n/o Anton	4SS	25,000	10,000	.40
203. Newport SB s/o Wilson	3SS[3]	28,000	11,000	.39
204. Newport SB s/o 22nd	2SS[3]	19,000	14,000	.74
226. Newport s/o 19th	6MA	68,000	24,000	.35
227. 18th e/o Newport	2CS	12,500	1,000	.08

TABLE CIR-4
2020 ADT VOLUMES AND CAPACITY ANALYSIS – CONTINUED

Location	Classification[1]	Capacity	Volume	V/C
228. 18th w/o Irvine	2CS	12,500	1,000	.08
277. MacArthur e/o Harbor	6MA	68,000	30,000	.44
288. Sunflower w/o Raitt	4PA	45,000	21,000	.47
289. Harbor n/o MacArthur	6MA	68,000	50,000	.74
290. Harbor s/o MacArthur	6MA	68,000	37,000	.54
294. Susan n/o Sunflower	4SS	25,000	8,000	.32
295. Susan s/o Sunflower	4SS	25,000	7,000	.28
298. Fairview n/o Sunflower	6MA	68,000	47,000	.69
307. Bear n/o Sunflower	4SS	25,000	22,000	.88
313. Bear s/o South Coast	6MA	68,000	33,000	.49
314. Bear s/o Paularino	6MS	56,000	35,000	.63
315. Bear s/o Baker	2CS	12,500	9,000	.72
316. Sunflower e/o Bear	6MA	68,000	41,000	.60
317. Fairview s/o Sunflower	6MA	68,000	57,000	.84
329. Canyon Bluff n/o 19th	6MA	68,000	18,000	.26
333. Canyon Bluff n/o 17th	6MS	56,000	22,000	.39
335. Canyon Bluff s/o 17th	4PS	38,000	17,000	.45
339. Superior s/o 16th	4PS	38,000	20,000	.53
350. Newport NB n/o Fairview	3SS[3]	28,000	8,000	.29
351. Newport NB s/o Fairview	3SA[3]	34,000	24,000	.71
352. Newport NB s/o 22nd	2SS[3]	19,000	14,000	.74
353. Newport s/o Harbor	6MA	68,000	40,000	.59
354. Newport s/o 16th	6MA	68,000	66,000	.97

NOTES:

[1] Roadway classification in the form XYZ where X = number of midblock lanes, Y = roadway classification (major, primary, etc), and Z = roadway designation (augmented, standard or constrained). See Table CIR-3 for definitions

[2] NB is a 3 lane augmented one-way segment, SB is a 4 lane augmented one-way segment

[3] One-way segments

3.7 BICYCLE TRAILS

The City of Costa Mesa first adopted an official Master Plan of Bikeways (MPB) in 1974. With the adoption of the City's General Plan in 1992, a revised Master Plan of Bikeways was adopted and has been periodically updated. The following section discusses the current plan.

MASTER PLAN OF BIKEWAYS

Exhibit CIR-6 shows the City's Master Plan of Bikeways. Bicycle facilities within the City are given one of the following classifications:

- Bike Trail (Class 1)
- Bike Lane (Class 2)
- Bike Route (Class 3)
- Regional Trail

Bike trails are facilities at least eight feet in width that are physically separated from vehicular roadways and are reserved exclusively for bicycle use. Bike trails are most effective in long, uninterrupted stretches, such as along the Santa Ana River and along the Upper Newport Bay Ecological Reserve on the east side of Irvine Avenue.

Bike lanes consist of a painted stripe reserving at least five feet nearest the curb for bicycle use. Bike lanes are the most common classification within the City as they are generally implemented within existing right-of-ways.

Bike routes are designated only with signs and are mainly useful only to bridge short distances between other, more established bike lanes or trails and are typically only used on low volume, residential streets.

With the adoption of the 2000 General Plan, the following changes were made to the MPB:

- Modifications to the Fairview Regional Park bicycle trails pursuant to City Council as listed below:
    - Delete the bike trail along Banning Place between Pacific Avenue and Placentia Avenue;
    - Delete the bike trail between Canary Drive and the north entrance to Fairview Park south of the Fairview Channel;
    - Terminate the north-south bike trail through Fairview Park originating at Pacific Avenue at the north parking lot (delete the connection to Placentia Avenue);
    - Add a loop trail in Fairview Park east of Placentia Avenue connecting to the bicycle trails on the west; and
    - Deletion of the bicycle lanes along Harla Avenue since it is not continuous.

Insert Exhibit CIR-6, Master Plan of Bikeways

3.8 PUBLIC TRANSIT

The primary provider of public transportation in Orange County is the Orange County Transportation Authority (OCTA). The public transportation facilities within the City of Costa Mesa are described below.

PUBLIC BUS TRANSPORTATION

The OCTA is currently the only provider of public bus transportation within the City with over ten separate bus routes serving Costa Mesa. In 2000, the OCTA served approximately 57 million passenger boardings countywide.

OCTA bus ridership increased by approximately 31 percent during the period between 1990 and 2000 and the bus fleet grew from 668 vehicles to 757 vehicles during that same time period. The OCTA expects to expand bus service by another 49 percent by 2010.

A recently approved plan will change the way bus routes have traditionally been configured within the City. This plan, which took effect in September 2000, realigns most routes to travel either east/west or north/south instead of traveling in all four directions as many routes now do. New routes are proposed to serve most of the areas affected by the restructuring. Exhibit CIR-7 illustrates streets within the City that have transit service.

URBAN RAIL TRANSPORTATION

No urban rail facilities currently exist within the City. However, OCTA is in the planning stages of a light rail system that is proposed to pass through the northeast portion of the City, including a line connecting the South Coast Plaza Town Center area to the system. This project, currently referred to as The CenterLine rail system is envisioned to ultimately consist of 28 miles of rail line connecting Fullerton Transportation Center to Irvine Transportation Center, via Anaheim, Santa Ana, Orange, and Costa Mesa.

Due to the preliminary nature of the urban rail line proposals, potential long-range impacts to the City's public transportation system can not be identified with this information. Further review of final route alignments and station locations will be required as the planning for the urban rail line progresses.

3.9 GOALS, OBJECTIVES AND POLICIES

The goals, objectives, and policies that address circulation are as follows:

GOAL CIR-1:
TRANSPORTATION

It is the goal of the City of Costa Mesa to provide for a balanced, uncongested, safe, and energy-efficient transportation system, incorporating all feasible modes of transportation.

Insert Exhibit CIR-7, Streets with Bus Transit Service

Objective CIR-1A. To provide specific programs and policies that address multi-modal transportation, multi-agency coordination, mitigation of traffic impacts and the balancing of land uses with transportation systems.

CIR-1A.1 Develop the Master Plan of Bikeways by pursuing all funding mechanisms and incorporating bikeways into roadway and bridge widening projects. Incorporate bicycle facilities (circulation and storage) into the design and development of all new commercial and industrial projects and public facilities.

CIR-1A.2 Require dedication of right-of-way in an equitable manner for completion of adopted bikeway system as condition of development of adjacent properties.

CIR-1A.3 Coordinate the design and improvement of pedestrian and bicycle ways in major residential, shopping, and employment centers, parks, schools, other public facilities, public transportation facilities, and bicycle networks with adjacent cities.

CIR-1A.4 Include bicycle lanes on all new bridges along Master Plan of Bikeway designated arterials within or adjacent to the City. In cases where bridges are not located within the City, the City should exert its influence on responsible agencies to include such bicycle lanes. If provision of bicycle lanes is not feasible, measures should be taken to prohibit bicycle riding on bridge walkways.

CIR-1A.5 Investigate all available operational measures, including the use of one-way streets, to improve traffic circulation and minimize delay and congestion on arterials.

CIR-1A.6 Require dedication of right-of-way, in an equitable manner, for development that increases the intensity of land use.

CIR-1A.7 Implement citywide and/or areawide transportation system improvement programs on new development and fee programs for new development.

CIR-1A.8 Encourage the integration of compatible land uses and housing into major development projects to reduce vehicle use.

CIR-1A.9 Encourage permitted General Plan land uses which generate high traffic volumes to be located near major transportation corridors and public transit facilities to minimize vehicle use, congestion, and delay.

CIR-1A.10 Allow the application of transportation management rideshare programs, integration of complementary land uses, and other methods to reduce project related average daily and peak hour vehicle trips in order to achieve consistency with allocated trip budgets.

CIR-1A.11 Attempt to maintain or improve mobility within the City to achieve a standard level of service not worse than Level of Service “D” at all intersections under the sole control of the City. Intersection

level of service analyses for General Plan conditions shall be updated periodically and presented to City Council.

CIR-1A.12 Cooperate with adjacent jurisdictions to maintain or improve mobility within the City to achieve a standard level of service no worse than "D" at all intersections under State or joint control. Intersection level of service analyses for General Plan conditions for locations under State or joint control shall be updated periodically and presented to City Council.

CIR-1A.13 While the Gisler Road segment, west of Harbor, will exceed its theoretical maximum capacity, the City shall work to ensure that the future volume to capacity ratios do not exceed those identified in Table CIR-3 of the General Plan.

CIR-1A.14 Reduce or eliminate intrusion of commuter through traffic on local streets in residential neighborhoods.

CIR-1A.15 Prioritize intersection improvements which improve through traffic flow on major, primary, and secondary arterials, and reduce impacts on local neighborhood streets with emphasis on pedestrian safety.

CIR-1A.16 Maintain balance between land use and circulation systems by phasing new development to levels that can be accommodated by roadways existing or planned to exist at the time of completion of each phase of the project.

CIR-1A.17 Work closely with the State of California and other government agencies to control traffic-related impacts of uses on State- or other agency-owned land (i.e., Orange County Fairgrounds, Orange Coast College, etc.).

CIR-1A.18 Council shall review the results and findings of the (SARX) study to delete the Gisler Avenue and 19th Street bridges over the Santa Ana River as needed. Upon completion of the study and approval of the changes to the Orange County Transportation Authority's (OCTA) Master Plan of Arterial Highways by the OCTA Board, the City shall process a General Plan Amendment to delete the bridges from the City's Master Plan of Highways. All future development applications submitted to the City shall be reviewed in such a way that the 19th Street and Gisler Avenue bridges will not be included as mitigation measures.

CIR-1A.19 Minimize circulation improvements that will necessitate the taking of private property on existing developed properties.

CIR-1A.20 Encourage Orange County Transportation Authority to downgrade Mesa Verde Drive, Baker Street west of Harbor Boulevard, and Gisler Avenue to a designation less than a Collector Street in the Master Plan of Arterial Highways.

CIR-1A.21 Encourage Orange County Transportation Authority to downgrade Arlington Avenue between Fairview Road and Newport Boulevard to a Collector Street.

CIR-1A.22 Encourage Orange County Transportation Authority to downgrade Baker Street between Redhill Avenue and Bristol Street, and Redhill Avenue between I-405 and Bristol Street to Primary Arterial from current Major Arterial designation.

GOAL CIR-2:
TRANSPORTATION SYSTEM MANAGEMENT

It is the goal of the City of Costa Mesa to provide for standard service levels at signalized intersections by constructing capacity improvements for all various modes of circulation, adopting land use intensities commensurate with planned circulation improvements and implementing traffic demand reduction programs, thereby creating a more energy efficient transportation system.

Objective CIR-2A. To coordinate efforts with other regional agencies and pursue operational improvements towards enhancing the capacity of the system of freeways and arterial highways in the City.

CIR-2A.1 Coordinate with Caltrans for future consideration of the extension of Route 55 (the Costa Mesa Freeway) from 19th Street to the southern City boundary.

CIR-2A.2 Coordinate with the Orange County Transportation Authority and with adjacent jurisdictions to improve signal timing and coordination along major arterials.

CIR-2A.3 Continue to work with Caltrans to synchronize and coordinate traffic signals on arterials at intersections controlled by Caltrans.

CIR-2A.4 Continue to evaluate and pursue design and operational improvements (medians, driveway closures, signal synchronization or phasing, parking or turn restrictions, etc.) to improve the efficiency of intersections.

Objective CIR-2B. To promote the use of high occupancy vehicular modes of transportation in and through the City.

CIR-2B.1 Coordinate with OCTA to construct bus turnouts at appropriate locations with attractive shelters designed for safe and comfortable use.

Objective CIR-2C. To invest capital via a rationally phased allocation process for implementing transportation projects and programs.

CIR-2C.1 Support efforts to design and construct an urban rail project as it extends through Costa Mesa.

CIR-2C.2 Complete and annually maintain a needs assessment for traffic service levels and traffic safety. Develop and annually update a priority list of improvement projects, with priorities based on 1) correcting identified hazards; 2) improving/maintaining peak hour traffic volumes; 3) improving efficiency of existing infrastructure utilization; and 4) intergovernmental coordination.

Objective CIR-2D. To ensure that the transportation related impacts of development projects are mitigated to the fullest extent possible, in conformance with transportation related policies.

CIR-2D.1 Circulation improvements required to provide or attain the minimum traffic level of service standard at an intersection to which a development project contributes measurable traffic shall be completed within three years of issuance of the first building permit for said project, unless additional right-of-way or coordination with other government agencies is required to complete the improvement. Improvements may be required sooner if, because of extraordinary traffic generation characteristics of the project or extraordinary impacts to the surrounding circulation system, such improvements are necessary to prevent significant adverse impacts.

CIR-2D.2 Construction of circulation improvements for phased development projects may be constructed commensurate with the project construction based upon the findings of a traffic study approved by the City of Costa Mesa.

CIR-2D.3 A traffic impact fee shall be maintained for circulation system improvements to the Master Plan of Highways within the community and updated annually.

CIR-2D.4 Require discussion of transit service needs and site design amenities for transit ridership in EIRs for major projects.

CIR-2D.5 Require discussion of transportation system management (TSM) and transportation demand management (TDM) measures in all EIRs prepared for major projects.

Growth Management: Refer to Goal GM-1, Objective GM-1A and Policies GM-1A.1 through GM-1A.6 found in the Growth Management Element.